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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,611	10/24/2003	Paul Anthony Jacobs	9052-176	6485

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MYERS BIGEL SIBLEY & SAJOVEC  
PO BOX 37428  
RALEIGH, NC 27627

EXAMINER

MULLEN, THOMAS J

ART UNIT PAPER NUMBER

2632

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/693,611

Applicant(s)

JACOBS ET AL.

Examiner

Thomas J. Mullen, Jr.

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 7-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 10 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/29/04, 8/1/05 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. The amendment filed 8/1/05 has been fully considered. The two replacement drawing sheets for Figs. 12 and 17, respectively, are not approved, because they lack a sheet number which is necessary for these drawing sheets to correspond to the version of the drawings filed on 9/29/04 (which were numbered "1/17" to "17/17"). Further, Fig. 12 is now designated as "Figure 12 of 17", which is improper. Correction of the designation of Figure 12 (to "Figure 12" or "Fig. 12"), and addition of the sheet numbers on both replacement sheets, is required.

2. The drawings remain objected to as failing to comply with 37 CFR 1.84(p)(5) because they do include the following reference character(s) not mentioned in the description: 302 and 305 (Fig. 1; see page 5, lines 7-10 of the specification), and 126-128 (Fig. 12; see page 14, lines 6-15 of the specification).

The drawings remain objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "30" has been used to designate both an "RF transmitter" (Figs. 4-6) and a "sealing area" (Fig. 7).

The drawings remain objected to under 37 CFR 1.84(o) as failing to provide "descriptive legends" for the variously-shaped blank enclosures (boxes, blocks, etc), as follows:

27-30 in Figs. 4-6; 34-37 in Fig. 7; 50-52 in Fig. 8; 68-70 in Fig. 9;  
86-88 in Fig. 10; 101-106 and 108 in Fig. 11; 112, 114, 115 and 121 in Fig. 12;  
130, and various unnumbered blocks in Fig. 14; and  
(particularly) 160-173 in Fig. 17.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-5 and 7-12 are objected to under 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 as amended, a comma should be inserted between "sealing device" (line 5) and "said at least..." (line 6).

Art Unit: 2632

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 4-5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 4 presently recites that the remote unit "comprises a receiver to enable remote access by non-wireless technology". The only disclosed "remote unit" comprising a "receiver" appears to be the mobile wireless type shown in Figs. 12, 13A-B, 15A-B and 16, designated by reference numerals 110, 148 or 150 in these figures (note RF receiver 112 in Fig. 12, and e.g. page 13, lines 16-26 in the specification). In other words, the original disclosure does not appear to provide support for the recitation that the remote unit receiver enables access by non-wireless technology. Therefore, the subject matter presently recited in claim 4 is considered new matter.

7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7 as amended, it is unclear if the "keypad" is part of the "remote unit" (see claim 1, last line), or is a separate device, considering that both of these elements are described as "access(ing)" the data storage device. In other sense, it is unclear what is meant by a data storage device being "accessed by a keypad" per se.

8. Claims 1-5, 7, 9 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbuckle (US 5906374).

Note in Arbuckle, rotating equipment (e.g. pump 10, see Fig. 3); sealing device (dual seal 16 having primary 28 and secondary 30 seals for corresponding fluid chambers 26 and 32, see

Art Unit: 2632

Figs. 1-3); data storage device (microprocessor 114 or 154 or 200, see Figs. 3, 4, 6 and 8-15); and display (116, 128, 130, 156, 158, 210 and/or 212 in the various figures). Arbuckle discloses a barrier fluid leakage control apparatus 54 and method, using a pressure monitoring and control arrangement 60 to "detect and measure the decrease of the barrier fluid pressure below the preset level", and to "calculate and provide a readout of...the leakage rate" (Abstract). Apparatus 54 includes first and second pressure transducers 120,122 (Fig. 4) for monitoring fluid pressure in flow lines associated with the pump (col. 9, lines 1-4), whose outputs are converted to digital signals and "stored in the memory of the microprocessor 114" (col. 9, lines 47-52); in correspondence therewith, both "average" and "instantaneous" leakage rates are calculated by microprocessor 114 and displayed digitally by displays 128,130 (col. 9, lines 52-58).

Alternately, apparatus 54 may include an electronic linear measurement device 148 (Fig. 6) for monitoring "the movement and position of (a) piston 142" associated with the sealing device (col. 10, lines 52-59), such that when "barrier fluid leakage" occurs, the linear measurement device 148 "generates an electrical signal output" which is processed by microprocessor 154 and displays 156,158 (col. 11, lines 7-21). Thus, Arbuckle teaches monitoring the "performance" of a sealing device (16)--i.e., leakage control--by measuring "variable information" via at least one sensor (120,122,148,etc) incorporated in the sealing device, and providing the information to a data storage device (114,154,200).

Regarding claims 1, 13 and 14 as amended, the sensor(s) (120,122,148,etc) is/are connected to "an amplifier and/or a micro-controller" (i.e., microprocessor 114 or 154 or 200), which by definition (and as identified above with respect to microprocessor 114) includes its own memory or "data storage device". Regarding the "remote unit comprising a display", note further in Arbuckle, fluid leakage control "reporting network" 218 (Fig. 17 and col. 18, lines 34-50), wherein pumps 10 (and/or valves 160) at corresponding "nodes" 220 each have a "network interface chip" which enables them to communicate with a "host computer" 222; in particular, "(l)eakage data from each node 220 is collected by the host computer 222 over the network 218 and entered into a database". Thus, host computer 222 constitutes a "remote unit". Further, host computer 222 has "reporting software" capable of "generating leakage status and maintenance reports"--i.e. information or data to be presented or "displayed" to monitoring personnel for whom the "reports" or generated (note col. 18, lines 45-48, and the descriptive matter within

Art Unit: 2632

block 222 in Fig. 17). Although Arbuckle doesn't explicitly disclose a "display" in association with the host computer 222, one skilled in the art would have recognized that the use of a "display" in association with the host computer (such as a standard computer monitor) would have enabled such monitoring personnel to have the most direct and convenient "remote access" to the "status and maintenance" information or data which is "report(ed)" to the host computer. Therefore, it would have been obvious to provide the "remote unit" 222 of Arbuckle with a "display" as in claims 1, 13 and 14.

Regarding claims 2-5, as discussed above the "information" stored by the microprocessor (114,154,200) is "remotely accessible" by the host computer 222. Arbuckle fails to teach whether the communication links between the "network interface chip" at each node and the host computer 222 (broadly depicted in Fig. 17) are "wireless" or "non-wireless", as in claims 2 and 4, respectively; however, Arbuckle does teach that the network "can be constructed using several different types of communication media and communication standards". One skilled in the art would have recognized that "different types of communication media and communication standards" applicable to Arbuckle would include one or more of the particular "wireless" and "non-wireless" types listed in claims 3 and 5, respectively. Therefore, it would have been obvious for one of ordinary skill to select one or more particular types of "communication media", from among those recited in claims 2-5, for use in the network 218 of Arbuckle.

Regarding claim 9, sensor 148 is a "linear measurement device", as discussed above.

Regarding claim 12, since Arbuckle's system is described as a "control method" (or "control apparatus"), the sensor (120,122,148,etc) and data storage device (114,154,200) in Arbuckle thus inherently provide "feedback control", i.e. "controlling leakage of a barrier fluid" from the dual seal assembly (note that pressure mechanism 56--which is part of control apparatus 54--"maintains the pressure of the barrier fluid at a preset level above the pressure of the process fluid" in response to sensor outputs, see the Abstract and col. 6, lines 61-64).

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arbuckle in view of either Japan publication 7-332502 (hereinafter Japan '502) or Nord (US 6003872).

Arbuckle further teaches that linear measurement device 148 may be, e.g., of the "variable resistance type" (col. 10, lines 59-62), but fails to specify that the linear device 148

Art Unit: 2632

may be a "strain" measurement device per se (it appears to be inherent that device 148 is, directly or indirectly, "fixed to a component of the sealing device"). However, it is well known in the art of seal monitoring devices to use a strain-type sensing element; for example, Japan '502 teaches using sensors which detect "stress" applied to a mechanical seal (see the translated Abstract and Fig. 1), and Nord teaches using sensors which detect "mechanical-dynamic stresses" applied to a seal (see the Abstract and Fig. 1), Nord further teaching that such sensors may be "piezo-elements" (see col. 4, lines 33-39). In view of either Japan '702 or Nord, it would have been obvious to use a "strain" measurement device per se in Arbuckle (as perhaps the linear measurement device 148 thereof), since strain devices are well known inexpensive sensors capable of providing "variable information" as to a sensed condition.

10. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Applicant's arguments filed 8/1/05 have been fully considered but they are not persuasive.

Regarding the placement of descriptive legends in the blank boxes of Figs. 4-12, 14 and 17, the general statement by applicant that the flow charts or circuit diagrams having blank boxes "highlight the links between (the objects, or blank boxes) rather than the objects (or boxes) themselves" is beside the point; a blank box in a flow chart or circuit diagram conveys no information about what the box represents, and it would be tedious for one reading the disclosure and attempting to understand what is shown in the drawings to have to refer back to the specification to figure out what each and every one of the boxes represents. 37 CFR 1.84(o) states that descriptive legends "may be required by the examiner where necessary for understanding of the drawing". Also, it should be noted that several blank boxes in Figs. 11 and 14 lack even a reference numeral, whereby it would not be possible to determine the intended element. Therefore, the objection to the drawings on this basis is maintained.

The other drawing objections given above, which were maintained from the last Office action, were apparently overlooked by applicant.

Art Unit: 2632

Regarding the art rejections, applicant states that claims 1 and 13 were amended to "incorporate recitations similar to those of dependent claim 7". However, claim 7 as originally filed was considered limited to a "wireless" remote unit (by virtue of the recitation that the remote unit comprised "remote antennae [sic] or receiver") which is not the case in claims 1 and 13 as amended.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

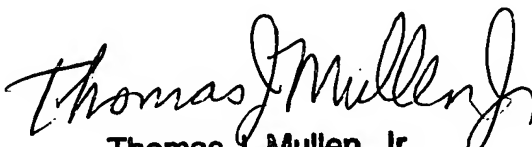
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mullen, Jr. whose telephone number is 571-272-2965. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu, can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

TJM

  
Thomas J. Mullen, Jr.  
Primary Examiner  
Art Unit 2632